IN THE CLAIMS:

Page 33, before Claim 1, delete:

~~CLAIMS~~

Page 33, before Claim 1, insert:

WHAT IS CLAIMED IS:

Please cancel claims 1-21 without prejudice or disclaimer, and substitute new claims 22-42 therefor as follows:

1-21 (Canceled)

22. (New) An apparatus for measuring the weight of a preform for optical fibres during a chemical deposition process for the formation of a preform, comprising:

at least one elastic constraint intended to be associated with at least one end portion of an elongated element comprising a chemical deposition substrate for the formation of the preform;

a device for inducing an oscillation on said elongated element;

a device for detecting the frequency of oscillation of said elongated element; and

a device for calculating the weight of the preform according to the detected frequency of oscillation.

23. (New) The apparatus according to claim 22, wherein said at least one elastic constraint is a constraint with a single degree of freedom such as to allow an axial oscillation of said elongated element along its longitudinal axis X-X.

24. (New) The apparatus according to claim 23, wherein said at least one elastic constraint comprises:

a first coupling element suitable for being rigidly associated with a rotatable chuck;

a second coupling element suitable for being rigidly associated with said elongated element;

wherein said first and second coupling elements are elastically and slidably coupled and are rotatably constrained.

25. (New) The apparatus according to claim 24, wherein said first coupling element defines a first sleeve and said at least one elastic constraint also comprises a second sleeve rigidly associated with said at least one end portion of said elongated element and coaxially mounted inside said first sleeve through the interposition of at least one bearing suitable for allowing a relative sliding between said first and second sleeves along said axis X-X.

26. (New) The apparatus according to claim 25, further comprising a ball joint placed between said second sleeve and said at least one end portion of said elongated element.

27. (New) The apparatus according to claim 24, further comprising a pin associated with said first coupling element and slidably coupled with a slot formed on said second coupling element.

28. (New) The apparatus according to claim 23, wherein said longitudinal axis X-X is a horizontal axis, the apparatus comprising two opposite sliding elastic constraints suitable for being associated with opposite end portions of said elongated element.

29. (New) The apparatus according to claim 23, wherein said longitudinal axis X-X is a vertical axis, the apparatus comprising a single sliding elastic constraint suitable for being associated with an end portion of said elongated element.

30. (New) The apparatus according to claim 22, wherein said device for inducing the oscillation is housed inside said at least one elastic constraint.

31. (New) The apparatus according to claim 24, wherein said device for inducing the oscillation is housed inside said at least one elastic constraint and comprises a pneumatic device acting upon said second coupling element.

32. (New) The apparatus according to claim 24, wherein said device for inducing the oscillation is housed inside said at least one elastic constraint and comprises an electromagnetic device acting upon said second coupling element.

33. (New) The apparatus according to claim 22, wherein said device for detecting the frequency of oscillation comprises a device for detecting the position of said elongated element suitable for generating a signal indicating said position, and a device

for processing said signal to work out the frequency of oscillation of the elongated element.

34. (New) The apparatus according to claim 33, wherein said device for detecting the position of said elongated element comprises a target intended to be rigidly associated with said elongated element and an optical measurer of the distance of said target.

35. (New) The apparatus according to claim 34, wherein said optical measurer comprises an emission source of a luminous signal toward said target, a device for receiving the luminous signal scattered by said target, and a device for processing the collected luminous signal to generate an electric signal representing the distance of said target.

36. (New) A method for measuring the weight of a preform for optical fibres during a chemical deposition process for the formation of a preform, comprising the steps of:

elastically constraining an elongated element comprising a chemical deposition substrate to a chemical deposition machine for the formation of the preform;

inducing an oscillation of said elongated element;

detecting the frequency of oscillation of said elongated element; and

calculating the weight of the preform according to the detected frequency of oscillation.

37. (New) The method according to claim 36, wherein the step of inducing an oscillation of said elongated element comprises the following steps:

supplying pressurised air, for a predetermined time, inside a seat housing an end portion of said elongated element; and

discharging the air from said seat after said predetermined time.

38. (New) The method according to claim 36, wherein the step of inducing an oscillation of said elongated element comprises the following steps:

supplying current, for a predetermined time, into a solenoid arranged on the outside of and coaxially to a coupling element rigidly associated with said elongated element, such a coupling element comprising at least one permanent magnet; and

interrupting the supply of current after said predetermined time.

39. (New) The method according to claim 36, wherein the step of detecting the frequency of oscillation of said elongated element comprises the following steps:

generating a signal representing the position in time of said elongated element; and

processing said signal to work out the frequency of oscillation of the elongated element.

40. (New) The method according to claim 39, wherein the step of generating a signal representing the position in time of said elongated element comprises the steps of:

sending a luminous signal toward a target rigidly associated with said elongated element;

collecting a luminous signal scattered by said target; and

processing the collected luminous signal to generate an electric signal representing the distance of said target.

41. (New) A chemical deposition machine for the formation of a preform for optical fibres, comprising:

a frame intended to support along an axis X-X an elongated element comprising a chemical deposition substrate for the formation of a preform;

at least one burner intended to deposit on said substrate a chemical substance for the formation of a preform; and

a weight measurement apparatus for measuring the weight of a preform for optical fibres, comprising:

at least one elastic constraint intended to be associated with at least one end portion of an elongated element comprising a chemical deposition substrate for the formation of the preform;

a device for inducing an oscillation on said elongated element;

a device for detecting the frequency of oscillation of said elongated element; and

a device for calculating the weight of the preform according to the detected frequency of oscillation.

42. (New) A chemical deposition process for the formation of a preform for optical fibres, which comprises measuring the weight of the preform by the steps comprising:

elastically constraining an elongated element comprising a chemical deposition substrate to a chemical deposition machine for the formation of the preform;

inducing an oscillation of said elongated element;

detecting the frequency of oscillation of said elongated element; and

calculating the weight of the preform according to the detected frequency of oscillation.